CORROSION OF IRON IN MOLTEN IONIC TRANSITION METAL SALTS

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BY

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Faculty Science and Technology

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ABSTRAK

Pada amnya, kebanyakan logam akan mengalami proses pengaratan akibat daripada tindakbalas dengan udara (semulajadi). Biasanya dalam keadaan semulajadi proses pengaratan akan berlaku dalam jangkamasa yang panjang. Namun begitu, pengaratan akan berlaku dengan lebih aktif lagi dengan kehadiran bahan-bahan tertentu sebagai agen pengaratan. Di dalam kajian yang dijalankan, larutan nikel sulfat, $NiSO_4$ dan larutan kromium sulfat, $Cu_2(SO_4)_3$ telah digunakan sebagai agen tindakbalas pada logam besi. Kepingan besi yang disalut dengan kedua-dua bahan tadi akan dipanaskan pada suhu 120°C, 140°C, 160°C, 200°C, dan 500°C. Didapati, proses pengaratan berlaku dengan lebih aktif pada suhu yang tinggi iaitu 500°C. Manakala pada suhu yang agak rendah, proses pengaratan yang berlaku tidak begitu ketara.

ABSTRACT

Generally, most of the metals are exposed to the corrosion process as a result to reaction with air at atmosphere (nature process). Normally in natural condition, the corrosion process occurs at a long period of time. However, corrosion was more active with present of certain materials as corrosion agent. In this study, solution of nickel sulphate, $NiSO_4$ and chromium sulphate, $Cr_2(SO4)_3$ has been used as the reaction agent of corrosion in iron. A piece of iron were coated by both of solution was heated at 120 °C, 140 °C, 160 °C, 200 °C and 500 °C. As a result, the corrosion process occur more active at high temperature 500 °C. On contrast, at low temperature, the corrosion process was not really conspicuous.